

The Merrill-Palmer Quarterly

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VOL. 1	SPRING	1955
		<i>Page</i>
BIOLOGICAL GROWTH AS IT MAY AFFECT PUPIL'S SUCCESS		
Wilton Marion Krogman		90
THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH		
Charles G. Jennings, M.D. and S. Idell Pyle		99
THE NATURE OF MAN		
John Collier		111
THE NORTHVILLE PROJECT—A PILOT STUDY IN IMPROVING HOME-SCHOOL RELATIONS THROUGH PARENT GROUP PARTICIPATION		
Gladys M. Pantou		118
M-P PLANS AND PROJECTS		122
POSTSCRIPTS		
Dorothy Tyler		125

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BIOLOGICAL GROWTH AS IT MAY AFFECT PUPIL'S SUCCESS

WILTON MARION KROGMAN *

Right at the beginning I'd like to define the two major factors in the title. "Biological growth" includes all of the morphological and physiological changes in the first two decades of life. "Pupil's success" shall be interpreted in the broadest possible context to include achievement in intellectual, psycho-behavioral, or emotional, and social adjustment realms, i.e., success as a total, well adjusted personality.

At the risk of being trite I'd like to paraphrase a generally accepted axiom, "sound mind in a sound body," and state that the burden of my argument shall be, "a sound *developing* mind in a sound *growing* body." I believe that there is a degree of synchrony between the learning process, *en toto*, and the tempo of physical growth. Hence, I would like to formulate as my central theme a major problem: is there a positive relation between rate of progress in physical growth and rate of progress in social and intellectual maturity and emotional stability?

At once we are confronted by sets of factors that will confound the clarity with which we may set up any degree of relationship. First to consider is the matter of comparability: are units (or measures) of progress in each sphere—biological and behavioral—directly comparable? Next to consider is the matter of variability: each in its own sphere may cluster around a central tendency, yet be at extremes (plus or minus) within a normal range of variation; if each sphere (and all measurements and/or tests within each) has its own degree of variability, then degree of significance in correlation may be indirectly obscured. In our present state of knowledge we may recognize factors such as these but we cannot properly evaluate or equate them. Extent of correlation may be higher or lower than is evident, but we have no precise way of knowing this.

We grow. We grow up. We grow older. Here is growth summed up: increase in size; change in proportions; progress toward maturity. The first two—size and proportion—are strictly mensurational, with *height* and *weight* the two most common measures. The third is also

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measurable, via X-ray standards, but it is not quite as objective. Be that as it may, we have three "ages"—height age (H.A.), weight age (W.A.), maturational or skeletal age (S.A.). Of these three the third is by far the more basic; it is the tempo of biological age registered in the tissues and systems of the body (in this instance the skeleton).

"Progress toward maturity" is a concept difficult to delimit and to define. For purposes of this discussion we may recognize two goals of maturity. The first is sexual maturity, at puberty, which registers the functional ascendancy of the gonadal complex. There are profound morpho-physiological changes, not the least of which is an increased or intensified growth acceleration, especially in height. The second is adult maturity, at or near the end of the second postnatal decade, which—for all practical purposes—marks the termination of the period of active growth. In this sense puberty and adult growth status are levels of attained maturity; maturation becomes the process by which progress toward maturity is measured and assessed. Certainly, maturation is one of the most dynamic concepts in the whole growth picture. It is the very nucleus of the entire motion of growth.

It is the very dynamics of the growth and maturational process that forces us to consider still further conditioning factors. There are, for H.A. and W.A., "fast growers" and "slow growers," just as there are for S.A., "early maturers" and "late maturers." Actually, the two sets of variables are closely linked, for growing (increase in size) is timed to the maturity level of puberty. There is a pre- and circum-pubertal acceleration in height, with weight largely post-pubertal.

There is, finally, one other major variable to be considered, i.e., the inheritance of growth potential. It is almost certain that stature is a heritable factor, so that we must recognize "large family-lines" and "small family-lines." This means that the biogenetic potential in individual growth must be equated to patterns of familial size. To a less extent—in fact, quite poorly defined—we must consider the possibility that rate of progress toward maturity may be a heritable entity, too.

Up to now we've done little but place certain obstacles in our path: comparability; variability; fast and slow growers; early and late maturers; large and small family-lines. These are not really obstacles. They are sets of conditioning factors which will be of ultimate value and meaning as we focus upon our real goal: the individual child. They are likewise of potential value in more precisely analyzing degree or extent of correlation between physical growth and behavioral unfolding.

In turning, now, to a weighing of evidence I'd like first to present several statements by Todd.⁸

Maturity is not experience: it is that upon which experience imprints itself and without which experience does not register (p. 11).

A child who is retarded in maturation will think and act like a younger child. Experiences normal for his years simply fail to register. This often gives an air of irresponsibility puzzling enough to seniors who are answerable for his training. The analysis of psychological responses or behavioral patterns is greatly aided by a preliminary assessment of the physical developmental progress, weight being an indicator of nutrition, stature of health, and maturation of constitution (p. 13).*

The justly-famed growth curves of Scammon⁶ are basic to an understanding of differential levels or rates of maturation within the entire organism. It is of great significance that the *neural* curve, concentrating upon the central nervous system, reveals that this system reaches nearly 95% of its adult (size) value at or near six years of age. Hence, brain, cord, and eye show an accelerated growth rate which means priority to the neurovisual and, to a less extent, the neuromuscular, systems of coordination. This, it seems to me, is very important to our problem. It means that the *capacity* for learning is well in advance of its training. It means that, in accordance with the basic human growth pattern, the task of Education becomes the translation of capacity into *ability* so that individual (learning) *potential* is achieved.

In a recent article Penfield⁵ has high-lighted this theme of growth-timing in brain and mind. "The brain," he said, "passes through unalterable transitions. It is especially adapted to the learning of language at one stage, and to the use of language in reasoned thought at another, a later, stage." May I paraphrase and say that there is a growth tide in the affairs of mind which, taken at the full, leads to greater (easier) learning? It is up to us to learn ebb and flow.

In 1904 or thereabouts Porter studied a group of St. Louis school children. He found that youngsters tall and heavy for their age were usually in the upper test score levels, i.e., bigger children did better in school. In the 1930's Boas studied a group of New York school children. He found that children advanced in all three ages (H.A., W.A., and especially S.A.) were in the upper quartile of test score distribution. Size and level of maturity were united as related to learning advancement.†

The foregoing data are suggestive but not definitive. Size, alone, is not enough. There is a well-marked tendency to react to a large child as though that child were capable of a higher level of response; heightened expectancy may evoke heightened response. The introduction of the maturation factor is more meaningful in that it suggests that innate level of response may be greater. Put it this way: height and weight may be exogenous stimuli; level of maturity may well be an endogenous stimulus.

* Todd uses constitution here in the sense of the biogenetic growth potential as a whole.

† Data re Porter and Boas are from notes given me by Todd.

Drs. Anton Brenner and Nancy Morse, of The Merrill-Palmer School, Detroit, very kindly placed at my disposal a small sample of the unpublished results of studies they are conducting in this field.* They made an analysis of the Pintner-Cunningham Primary Mental Abilities Test (PMAT) versus: (1) the H-W developmental age in the Wetzel Grid; (2) skeletal age; (3) the Goodenough draw-a-man test; (4) judgmental ratings of maturity level in drawings. The PMAT rank-order correlation coefficient (R) was

- .03 with the Wetzel Grid rating
- +.35 with skeletal age
- +.66 with the Goodenough test
- +.62 and +.50 with the ratings of drawings

It appears that H. and W., alone or as units in growth, have no real import in the PMAT. The +.35 with S.A., while low, does suggest a positive and fairly predictable tie-up between biology (as seen in the S.A.) and mental ability (as measured in the PMAT).

Drs. Brenner and Morse offer additional data on the correlation between biological and psychological data (figures are for R):

Test	Developmental	
	Age (Wetzel)	Skeletal Age
1. Metropolitan Readiness		
Reading	.02	.07
Numbers	.01	.17
2. Monroe Reading Aptitude		
Visual	.16	.15
Auditory	.66	.44
Motor	.38	.18
Articulation	.18	.21
Language	.03	.55

Here there is an interesting suggestion that physical growth, *per se*, is a greater factor in auditory and motor spheres than is maturity level (as measured by S.A.). Since the auditory mechanism is so well developed at birth it is quite likely that experience or previous learning is behind the .66 and .44. As far as motor coordination is concerned I'm not sure if the "handling" of size is of equal importance—or greater—than maturity level. The chances are that we'll discover that there are a number of *independent* "readinesses" in the learning process. Some are factors of attained size, others of achieved maturity.

In their concept of "organismic age" Olson and Hughes⁴ emphasize wholism in the approach to the biopsychological tie-up.

* The results reported here are derived from a sample of 16 children from the kindergarten class of a private school.

Educational achievement is a function of growth as a whole rather than of any single attribute such as mental age.

The trend is for children with "luxuriating" growth to have fewer problems of personal and social adjustment than those in whom growth is sluggish.

If this concept be rigidly interpreted then advance or delay may be synchronous in both biological growth and behavioral development. It follows, then, that non-synchronous growth and development may be the cause of, or related to, behavioral situations involving personality conflict. In my opinion the concept of organismic age is a useful one, a fruitful one. I query the applicability of the "age-unit principle" in the sense that scoring on a monthly basis is not discretely possible in both the biological and psychological realms; moreover, I query if scorings or ratings are directly comparable in the two sets of tests, e.g., whether a month's progress in dental age, shall we say, is equal to a month's progress in reading age.

There is one major growth period in which there is a pretty definite relation between soma and psyche (or, body and personality). This is the whole circumpubertal period, with its complex cycle of bodily changes. There is an intensified rate of growth; there are the phenomena of secondary sex traits, there are the emotional depths of self-awareness, and the awareness of age-peers, sex-peers, and of the opposite sex; there is the over-all mantle of "conformity" or "deviation" in the sense of being "normal" as relates to time and degree of achievement of pubertal changes.

Growth is a process of energy turnover, with two phases, energy intake (proteins, minerals, vitamins, calories) and energy output (waste products, and the sum total of organic function, part of which is expressed in the conscious "energy" of socialized response). During the first two decades of life energy intake must be markedly in the ascendancy to ensure the anabolic balance necessary to physical growth, i.e., increased protoplasmic mass, in the broadest sense. When growth is in a surge of activity, as in the circumpubertal period, the balance between intake and output is so finely drawn that most energy is channelled in an organic direction; relatively little is left over, so to speak, for the energy of psychosocial responses. Some idea of the degree to which the balance is refined may be gleaned from the statement of Macy and Hunscher³ that a difference of 10 calories per kg. of body weight per day may spell the difference between healthy growth and failing growth. In part, this "failing growth" may express itself as lessened awareness or as slowed response-time. Along this same line Beverly¹ says, "Because of their rapid growth adolescents fatigue easily and have poor motor coordination."

There is reason to believe that the sheer organic energy demands of the heightened tempo of pubertal growth-changes may deplete the

reservoir of available bodily energy to the point where the extraorganic demands of School and Society can be met by only a minimum response. As a result, the "learning curve," as a whole, may decelerate as the growth curve, as a whole, accelerates. This situation is only a phase, true, but it is one to be reckoned with.

We're ready, now, to cope with a much less well-defined situation, viz., the psychic response to organic self. By this I mean the individual's response to his own concept of his growth pattern as acceptable or not. There operate here a number of complex organic factors which I group, rather arbitrarily, as follows: (1) the size factor; (2) the timing factor; (3) the aesthetic-harmony factor.

The size factor is related to family-line and to ethnic backgrounds, i.e., children who are large or small, heavy or light, stocky or slender, because their parents are so constituted, either by virtue of individuality of body build or by virtue of national origin. It is this general factor, or combination of physical traits, that gives rise to such evaluations as "too tall," "too short," "too heavy," and so on.

The timing factor is, of course, related to the earliness or lateness of the maturation rate. Here we must consider the on-schedule or not-on-schedule aspect of the achievement of puberty and its concomitant phenomena.

The aesthetic-harmony factor is, in a sense, a corollary of the first two; in this sense the problems of integration and synchrony are involved. In larger measure, however, there is involved a balance or blend in growth. I have in mind such possible imbalances as a high weight-for-height ratio, or a discrepant tooth-jaw relation leading to crooked teeth, and so on. Here, too, must be mentioned the problem of pubertal skin blemishes.

These three sets of factors, in varying combinations and in varying degrees of harmony or disharmony, are basically organic. No one may deny this. Yet, the registration of their import (and impact) is often expressed in a behavioral realm. No one may deny this, either. It follows, however obscurely-defined the relation may be, that an organic condition (or the self-evaluation of it) may profoundly influence individual behavior. If this be granted, then the next step in thinking is an obvious one, i.e., that the behavior pattern which ensues may well register itself as an interference with, or inhibition of, the whole context of the classroom learning situation. As an example of this line of argument let us scan the data adapted from Stolz and Stolz.⁷ A number of adolescent boys and girls became school behavioral problems because of over-concern over growth differences or deviations which—in their eyes at least—set them apart from others of their age and sex peers.

<i>Trait</i>	<i>Girls (38 of 83)</i>	<i>Boys (29 of 93)</i>
1. Body-build generally	Too tall (7)* Too fat (7) General physique (5) Too tall and heavy (3) Too small, heavy (3) Thick legs (1) Too tall and thin (1)	Too small (7)* Too fat (7) Poor physique (4) Poor muscle strength (4) Bow legs (2)
2. Facial traits	Facial attractiveness (5) Cross-eyes (glasses) (2) Acne (1) Sparse head hair (1) Scar (1)	Facial appearance (4) Acne (3) Scars (2)
3. Traits associated with sex	Small breasts (2) Late menarche (2)	Circum-nipple fat (4) Small genitals (1) Large genitals (1)
4. Misc. bodily traits	One short arm (1) Vertebral brace (1)	Lack of shoulder breadth (1) Crooked spine (2)

Jones and Bayley² offer further evidence of a psychosomatic relationship in early and late maturing boys. Here, for example, are mean standard scores in the two groups:

<i>Trait</i>	<i>Early</i>	<i>Late</i>	<i>Level of Significance</i>
Attractiveness of physique	60.6	45.0	.01
Grooming	54.6	49.8	.05
Animation	49.6	61.2	—
Eagerness	47.9	59.3	.05
Uninhibitiveness	52.5	60.2	—
Matter-of-factness	60.5	43.6	.02
Unaffectedness	60.7	46.2	.05
Relaxation	61.1	40.6	.01

There can be no doubt of the higher rating of the early maturers in this bio-social complex. The entire picture is one of greater sureness of self, of poise.

*The numbers opposite each trait represent the frequency with which the trait was a matter of individual concern. Some boys and girls listed several traits. The 83 girls and 93 boys were all "problem cases"; 38 girls and 29 boys gave physical difference as basic causative factors.

In another category, rating by class-peers, the early maturers also are favored, in so-called "reputation traits."

Trait	Early	Late
Attention-getting	48.1	52.2
Restlessness	45.3	52.9
Talkativeness	47.9	53.0
Bossiness	47.1	52.6
Assurance in class	45.6	50.0
Popularity	54.0	50.7
Leadership	51.3	47.5
Humor (re self)	53.5	48.7
Having older friends	56.2	42.3
Good appearance	54.4	49.3

There is such a thing as "social maturity," and the early's have it! Included must be emotional stability and better adjusted inter-personal relationships.

Certainly, I am not chargeable with special pleading when I include such data in a measure of "pupil's success!"

In concluding this survey and analysis I'd like to suggest how physical growth may affect mental and behavioral development.

I. PRIMARY

1. Maturation level, per se, of maximum import in early and mid childhood (*ca.* 2-10 yrs.).
2. Energy demand of rapid growth: of maximum import in first half of the second decade of life (*ca.* 10-15 yrs.).

II. SECONDARY

1. Psycho-social concept of self.
2. Degree of conformity or non-conformity to growth norms and/or standards.
3. Conditioning factors are:
 - a. Size: ethnic; family line.
 - b. Timing: rate of growth; early-late puberty.
 - c. Aesthetic-harmony.

If anything, I err on the side of caution when I conclude: *the biology of growth is not necessarily basic in the development of psycho-social behavior, but it is certainly a conditioning factor and may be a determining factor!*

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THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH

CHARLES G. JENNINGS * AND S. IDELL PYLE †

The basic feature of the Merrill-Palmer Logarithmic Developmental Graph is a scale expressing age in logarithmic terms. With this scale deviations in developmental and growth trends are clearly revealed, and the graph may be used for almost any developmental attribute.

AGE EQUIVALENCE

The graph was developed in a search for a method which would lend itself to expression and comparison of as many measurable developmental attributes as possible. Of the two principal types of measurable attributes, one is represented by physical properties which can be measured by scales of equal units, such as pounds or inches. Statistical methods then may be applied to evolve normative values and determine variability and the data may be expressed graphically by plotting the physical units against age.

The second type of measureable attribute depends on qualitative changes which accompany development, such as the appearance of an ossification center, or the acquisition of a function such as walking. Qualitative changes regarded as significant in development are called maturity indicators. Normative age equivalences and expressions of variability may be obtained for maturity indicators by the statistical methods used with physical attributes. By assembling a large series of maturity indicators which relate to only one aspect of development and are graded over an appropriate range of age, a developmental measuring scale can be constructed in terms of age equivalence. As Terman⁸ pointed out, measurements of this type become progressively less adequate after puberty, but they are very useful during the period of rapid growth.

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Maturity indicator age equivalence scales cannot be translated into other terms. Physical properties, however, can be translated into age equivalence terms and for this reason age equivalence was chosen for the quantitative expression of the graph.

ARITHMETIC AND LOGARITHMIC GRAPHS

Arithmetic graphs for describing linear development in terms of age equivalence have long been in use. On such graphs (Fig. 1) equal time intervals are represented by equal scale distances, so that equal *proportions* must be represented by larger distances as age increases. Thus lines representing given proportions or quotients diverge as they progress. On double logarithmic graphs (Fig. 2), equal time intervals are represented by successively smaller distances in such a way that equal proportions are represented by equal distances. As a result, lines representing given proportions or quotients run parallel to each other. Examples of both types of charts were given by Rand, Sweeny and Vincent.⁵

CONSTRUCTION OF THE GRAPH

The typical logarithmic scale is exemplified by the familiar slide rule. On such a scale, the numbers are arranged in such a way that the distances between them are proportional to their logarithms. On the slide rule scale numbers are dealt with directly but they can be manipulated as if they were logarithms; that is, all exponents of the same number.

Since the logarithm of zero is minus infinity, zero cannot be represented on a graphic log scale. The scale must begin at some positive number and to select a number, a zero point must be assumed. Cus-

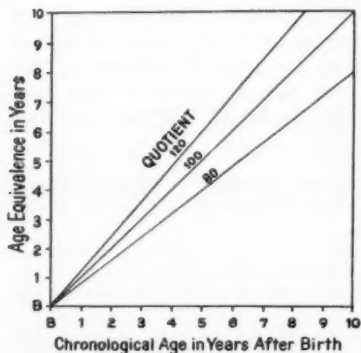


Fig. 1. ARITHMETIC AGE GRAPH

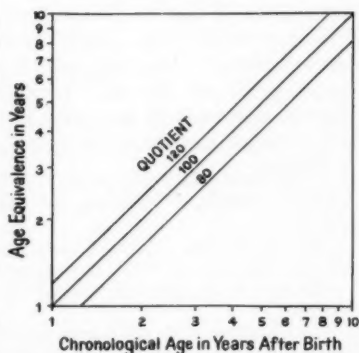


Fig. 2. DOUBLE LOGARITHMIC GRAPH

tomary age scales place the zero at birth, but it is generally understood that birth is emergence into the common environment and not the real beginning of the organism. Gesell¹ remarked that in developmental examinations by his method, prematurity had not been accompanied by apparent retardation if the age was corrected by subtracting the weeks between actual and expected birth. We have observed similar corrections to be necessary for weight, height, and skeletal maturity. Because conception appeared to be the most realistic point of origin for an individual, it was selected as the "zero" for the construction of the age scale.

If the graph scales were marked in months and years starting from one month after conception, the ages of all subjects would require recalculation to conception-zero terms. To add nine months, a reasonable approximation of gestation, to each age to be plotted would be a cumbersome procedure. To avoid this, the labeling of the scales was adjusted by locating the intersection of the ordinate and the abscissa at the ninth post-conception month on both scales (Fig. 3). Thus, ages less than nine post-conception months can be expressed as "minus" values.

Chronological age was indicated on the abscissa from birth to eighteen years and Age Equivalence on the ordinate, in the same scale, from birth to twenty-six years. Scales were drawn on all sides of the graph so that points might be located with two straight edges, avoiding the necessity of grid lines.

CALCULATION OF THE QUOTIENTS

The diagonal reference line passing through the points at which chronological age and age equivalence are equal was drawn to represent the curve of the Standard of Reference for whatever developmental attribute is to be charted. This is the quotient 100 line.

To indicate the quotients, additional lines were drawn above and below the main diagonal, at intervals of 25 for quotients from 50 to 200. In considering these lines it must be remembered that the graph really represents age in months after conception, although it is adjusted for the direct plotting of age in the customary terms of months and years after birth. Unless quotients are calculated in age after conception, the quotient lines will not be parallel. The conception-zero quotients on the graph differ from the ordinary birth-zero quotients by the addition of nine months to both the numerator and the denominator. This difference is demonstrated in Figure 3 by the addition of scale values based on conception-zero, showing chronological age in months after conception.

This difference between conception-zero and customary quotients need not interfere with using the graph. Quotients need not be

THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH

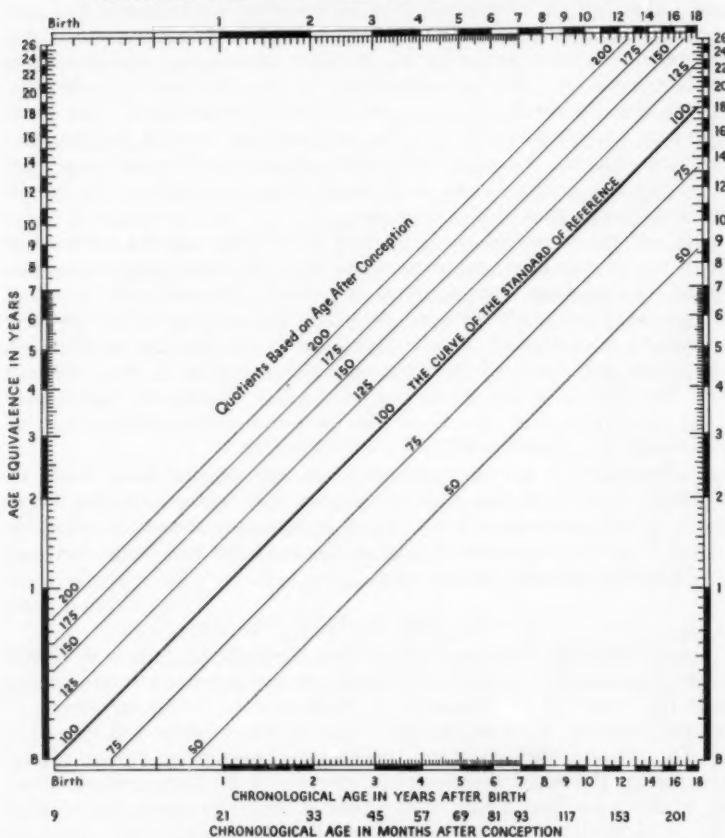


Fig. 3

calculated in plotting data, nor are the quotient lines intended to be used as a scale for the estimation of quotients. Rather, they were inserted to form channels, analogous to those of the Wetzel grids,⁹ by which the trend of a line representing some aspect of a child's development might be compared to the trend of a standard.

USE OF THE GRAPH

In using the graph, alteration in the original data is not required

either by the logarithmic character of the graph, or by the conception-zero age scale, or by the unusual quotients. All these are involved in the underlying structure of the graph rather than with its practical employment.

The only adjustment that may be required is with premature infants. If the chronological age of a child who was a premature infant is less than three years, it will be more accurate to subtract the amount of prematurity in months. Above three years, two months of pre-

THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH

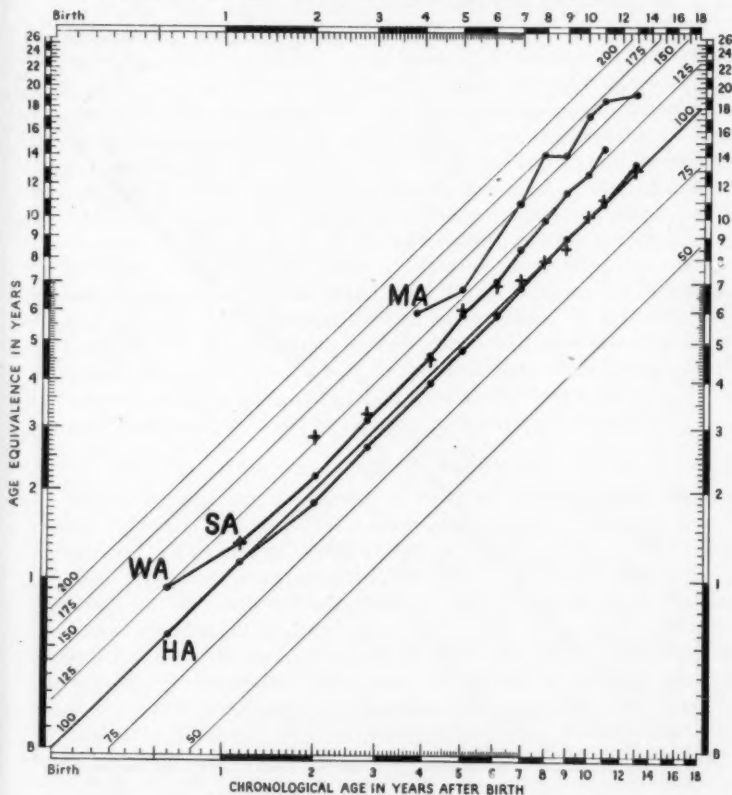


Fig. 4. SEVERAL ATTRIBUTES OF ONE CHILD showing trends for height age (HA), weight age (WA), skeletal age (SA) and mental age (MA).

maturity results in an error of less than five per cent and is negligible. Age Equivalences do not need to be adjusted for prematurity.

The data for a subject will need to be assembled and tabulated so that for each chronological age there will be a corresponding age equivalence for the developmental attribute to be charted. If the measurements already are in terms of age equivalence such as Terman's Mental Age,⁸ Gesell's Developmental Age,¹ or Todd's Skeletal Age,² no further calculations are necessary. If the measurements are expressed in other units, such as inches or pounds, they will require

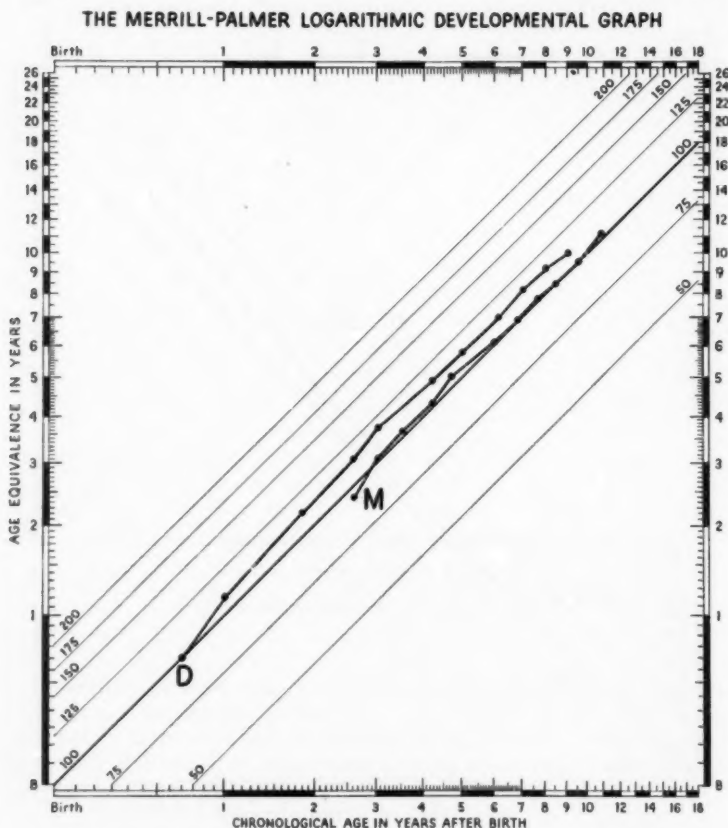


Fig. 5. A SINGLE ATTRIBUTE OF THE DEVELOPMENT OF TWO CHILDREN showing height trends for mother (M) during her childhood and her daughter (D).

translation into age terms by reference to a statistical standard such as that of Simmons,⁶ Stuart and Stevenson,⁷ Jackson and Kelly,³ or Wetzell.^{9, 10} Selection of standards is a matter of judgement; in any event a plotted graph can be no more significant than the standard used.

The intersection of the lines for each chronological age and its corresponding age equivalence for the developmental attribute being charted locates a point on the graph. When successive points are joined by a line, a trend for the developmental attribute is delineated. Figure 4 illustrates charting several different attributes of a normal girl on the same graph.

Similarly, the same developmental attributes for two or more individuals may be charted together (Fig. 5).

For some developmental measurements, notably the Stanford-Binet M.A., and the Todd S.A., the final value is really an average of a number of maturity indicator age equivalences, taken together to obtain greater stability and reliability. Such measurements gain clinical significance if the range of variation above and below the central value is given, i.e., least-advanced and most-advanced ossification centers; or, test item successes. These range expressions can be represented on the graph by three age equivalences for each chronological age, connected to form a channel expressing the central tendency flanked by upper and lower limits. Figure 6 illustrates a range graph of the hand-wrist skeletal maturation⁴ of a healthy boy.

Various other applications of this graph will doubtless be found. Moreover, there is no reason why the present form of the graph should be adhered to for all purposes. Different scale sizes, age ranges, and quotient lines may be used to advantage for special purposes.

INTERPRETATION OF THE GRAPH

When development is charted in terms of some physical property against age, the normative standard line reveals curvatures due to differences in the rate of development at different ages. When these physical properties are translated into age equivalence, and a graph is drawn of age equivalence against age, the normative standard line becomes straight because age equivalence is equal to normative standard age. Differences in rate of development at different ages are completely concealed. The same differences in rate are assumed to occur when attributes are measured by maturity indicator age equivalence, although lack of scales composed of absolute equal units prevents their demonstration.

In describing statistical variability, the physical properties are usually described as the mean plus or minus its standard deviation, or the 50 percentile flanked by other percentiles. Age equivalence

values are also statistical norms, and standard deviations or percentiles may be calculated for them. Variability may be thus expressed, but it also may be expressed in terms of percentage ratios or quotients of age equivalence to chronological age.

These two descriptions of variability do not have the same meaning. A given percentile or standard deviation describes the relationship of a given individual to a norm of the sample at the same age.

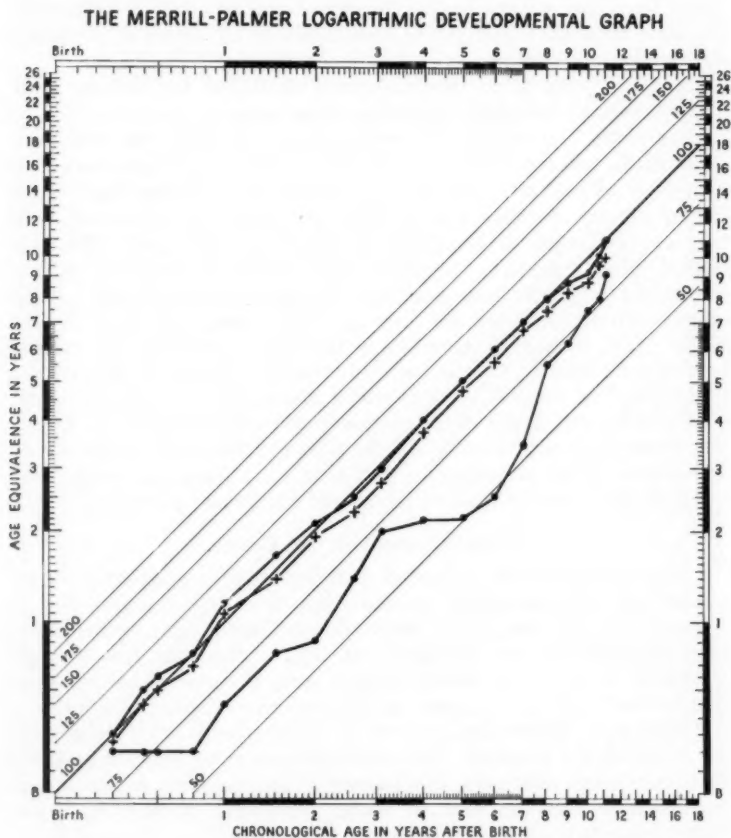


Fig. 6. RANGE GRAPH OF THE SKELETAL MATURATION OF THE HAND-WRIST of a healthy boy showing the trend for skeletal age flanked by the trends for the least-advanced and the most-advanced individual bones.

A given quotient describes the relationship of a given individual to a norm of the sample at a different age. When the actual rate of development is fairly uniform, a given standard deviation or percentile may approximate a constant quotient, but when the rate changes

THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH

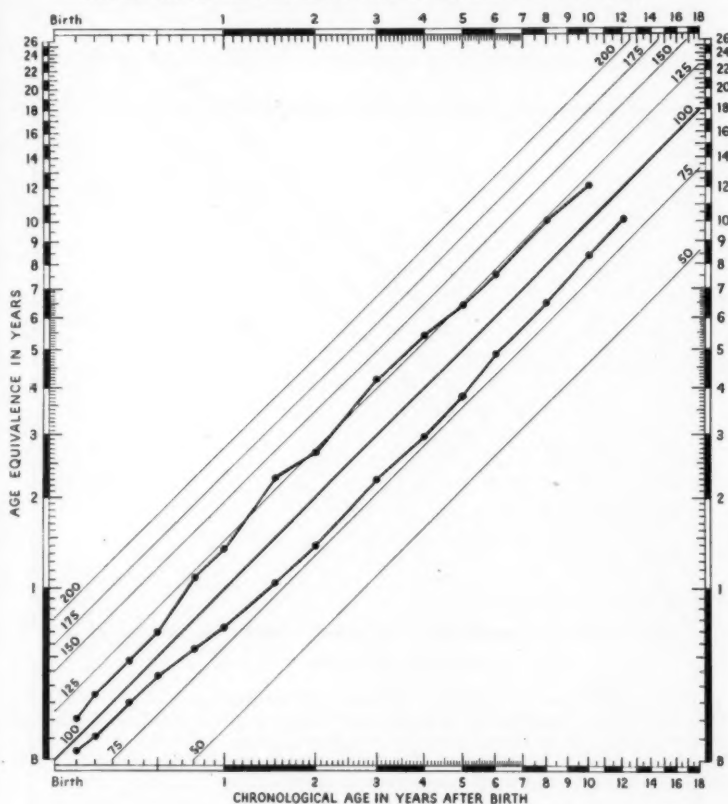


Fig. 7. NORMAL DEVIATION IN A STANDARD OF REFERENCE—MALE WEIGHT. The curve of the 50 percentile is represented by the quotient 100 line. The trends of the 90 percentile and the 10 percentile are plotted above and below it. The narrow segment from 1 to 6 months is followed by an expanding segment from 6 to 18 months, then by a gradually narrowing one up to 10 years. These data are taken from the Children's Medical Center, Boston—Anthropometric Chart. Other weight standards show a similar pattern.

THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH

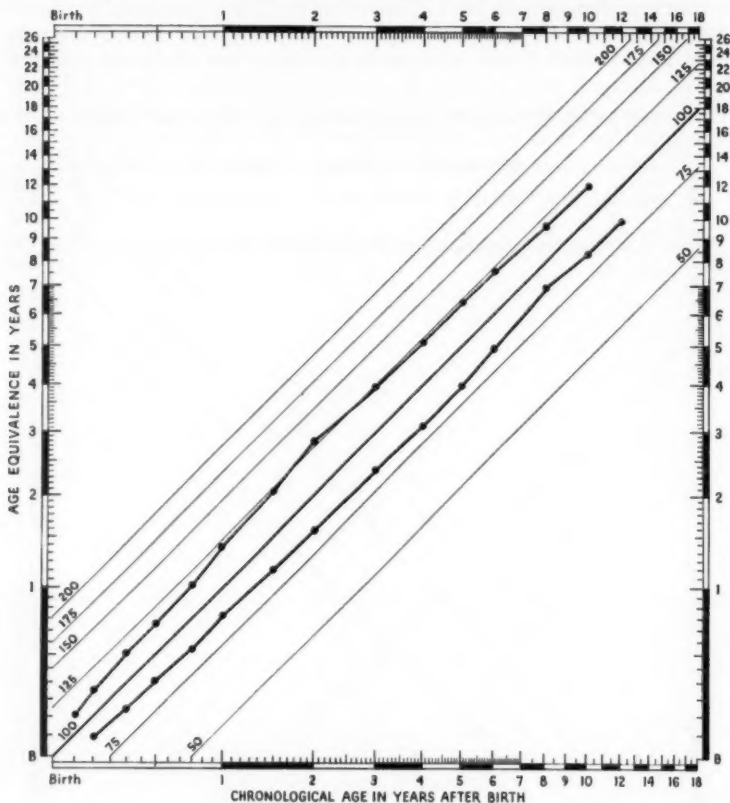


Fig. 8. NORMAL DEVIATION IN A STANDARD OF REFERENCE—MALE HEIGHT. The curve of the 50 percentile is represented by the quotient 100 line. The trends of the 97 percentile and the 3 percentile are plotted above and below it. Deviation from the parallel is more gradual, but similar to that of weight. Data from the Children's Medical Center, Boston—Anthropometric Chart.

rapidly, the quotient equivalent to the standard deviation or percentile may change considerably from age to age.

In addition, actual variability may be different at different ages, just as actual rate of development may differ. This factor also may affect the usefulness of quotients in describing variability, since quotients, in referring only to the central trend of the standard, do not take age differences of variability into consideration.

The logarithmic form for the graph was selected because on it quotients run parallel to the standard. In charting the measurements of a normal individual on the graph, one would expect the line to run parallel to the quotient lines, and this is generally true, but the farther the individual varies from the normative standard, the more likely is the trend line to deviate from the parallel, for the reasons mentioned above. It is therefore not correct to ascribe all quotient

THE MERRILL-PALMER LOGARITHMIC DEVELOPMENTAL GRAPH

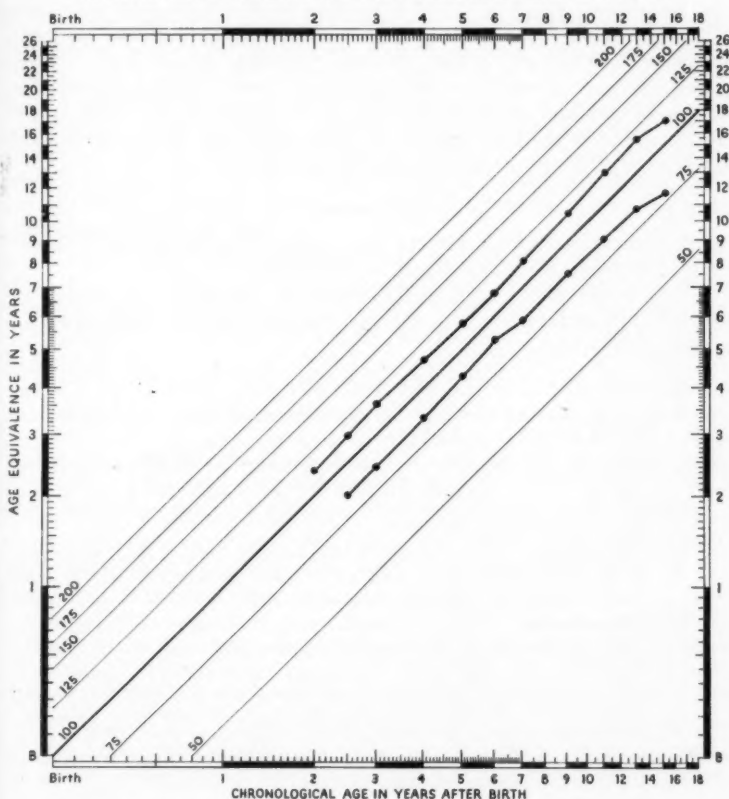


Fig. 9. NORMAL DEVIATION IN A STANDARD OF REFERENCE—MENTAL AGE, COMBINED SEXES. The curve of the mean is represented by the quotient 100 line. The trends for plus and minus one standard deviation ($+\sigma$, $-\sigma$) are plotted above and below. Data derived from Terman and Merrill,⁸ The Stanford-Binet Form L, 1937 revision.

trend deviations to the influence of some significant extraneous factor.

Fortunately this difficulty in interpretation may be overcome to a considerable degree by studying the deviations of the standards to be used in a given instance. The procedure is to chart these deviations on the logarithmic graph, using a given statistical deviation as though it were the actual curve for an individual. For instance, the ten percentile line on a weight graph may be translated into age equivalence by reference to the equivalent weights on the fifty percentile line. These age equivalences may then be charted against ages on the logarithmic graph to give a trend line for the normal 10 percentile deviation. A line for the 90 percentile deviation may be similarly prepared on the same graph. Normal deviation graphs may be prepared for any standard of reference for which standard deviations or percentiles are given at different ages (Fig. 7, 8, 9). The actual deviations of individuals should be interpreted only when the normal deviations of the standard of reference are known.

SUMMARY

A logarithmic graph for the expression of growth and developmental trends during childhood is presented.

This graph permits greater freedom in visualizing the trends of different quantitative attributes, and provides another technique for studying variability.

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THE NATURE OF MAN

JOHN COLLIER*

A good starting point this morning would be a remark made yesterday by one of our members from Argentina. His question was, "Is it in the nature of man to be willing to change, or does he do that only under the pressure of some great need or in a crisis?" The idea back of the question, I think, was that perhaps it is human nature to be lazy, to stay put, not to change. The question was not only as to the fact; it also asked: if man is by nature creative, why is he? There are two questions—the fact as to the nature of man and then the reason why.

I would say that the question was an extremely good one if we bear in mind that a certain philosophy about human nature became triumphant in Europe beginning about two hundred years ago, prevailed until now and was transmitted by Europe, by England, France, and other countries, to the thinking people of every land. That is, there are no intelligentsia anywhere who have not been more or less penetrated by the eighteenth century view of man formulated by two principal thinkers who are men to remember. One was John Locke, an intimate friend of Isaac Newton, and the other was Adam Smith, the founder of what I call liberal economics. As a matter of fact, John Locke's propositions underlie a large part of the American political structure and tradition. Locke and Adam Smith were liberals; they were great liberators; they were great men. And their view of what man is became more or less universal.

Now, what was that view? They said that man is an animal, or a spirit if you prefer, a being. First of all, he is essentially an isolated individual. He first exists as an individual apart from all other men. The word that we use is an 'isolate,' a solitary. Insofar as man is a social animal, it is a result of his getting together, and entering into contracts, agreements for the protection of what? property, goods, property including his own body, so that the community, human

* The first of a series of talks by the Professor Emeritus of Sociology and Anthropology, College of the City of New York, during a "Summer Seminar for Foreign Students" at Merrill-Palmer School. The lecturer formerly was U.S. Commissioner for Indian Affairs. The lectures were recorded, transcribed, and minimal adaptations for publication were made by Dorothy Lee, Ph.D., cultural anthropologist, Merrill-Palmer School.

society, human culture are not fundamental but are secondary historical products of contract.

That isolated, solitary man was a being totally preoccupied with property, with possessions, with acquisition. That was John Locke's view and Adam Smith's view. To put it crudely man's motives were greed for possession, and fear of losing it. There were no other significant motives. And let us remember that Adam Smith and John Locke did not think they were merely describing the England that was to come into being in the nineteenth century. They thought they were describing universal man. They believed they were anthropologists. They thought they were describing the way man had been since the first man, and would be unto the last, forever. And as I say that view of man had overwhelming prestige, importance, and was diffused to the whole thinking world. So that the question yesterday was eminently a reasonable one.

This morning I will talk awhile about ancient man, primitive man, and my reason is this. We are trying to find out what man really is, what he really wants, what we really can expect of him, ask him to be and do. That is our concern. Let me remind you that the man of a hundred thousand years ago (we won't go any further back) had exactly the same organism and brain, the same capacity to think, to discover, to dream, to create, that we have. There has been no change in the biological man at least in that hundred thousand years. We haven't acquired anything, we haven't lost anything biologically.

Now, what we call ancient man, what we erroneously called primitive man, fills all of the time from let us say a hundred thousand years ago, to five or six thousand years ago in India, a much more recent date in Europe, and some three or four hundred years ago in the western hemisphere. The human record is about 98 per cent the record of ancient man. Not only that but fully one billion people, one thousand million people living today, essentially are like ancient man, are living today the way he lived, feeling and thinking the way he felt and thought. Nearly half of the whole human race is still ancient man.

What do we know about ancient man? They say you could find an ancient man if you went today into New Mexico or Arizona, into Liberia to the aborigines, into vast areas of India, into large areas even of China, etc. One thing that we know is that this ancient man was, I can only use the word myriad-minded, many-sided. You cannot identify any particular temperament or kind of genius in our world today that you can't find in one or another group of ancient men. He was not one thing. He was a multitude, a many-sided multitude. That is demonstrated by his arts, his languages, his technological creations, his social institutions. The next thing that comes out is

that he was deeply religious and also deeply philosophical, deeply poetic, while at the same time he was absolutely practical. He was the dreamer and the doer, the thinker, the poet, the maker of great religions and symbolic forms and myths, and at the same time he was the inventor, the warrior, the practical man.

We also find that this ancient man always faced in two directions. He faced the outer world and struggled to control it or get along with it. And he faced the inner world, the soul, the human emotions. Always he faced both ways at the same time. So completely did he face both ways at the same time that his confrontation, his facing of the outer world was also a facing of the problems of the soul, and his facing of the problems of the soul was a facing of the outer world. We divide those worlds: out here the outer world, and here the soul. The ancient man saw them as inseparable parts of each other, and he had to function, to operate, in terms of both of them all the time.

This is illustrated by his view of medicine. Ancient man always treated the whole man, body and soul, and usually body and soul and community. He never split man up into organs, thoughts, emotions, and external society. He dealt with the whole man.

The next item about ancient man is one that we repeatedly come on: he was continuously creative and his creativity went into technological discovery and invention, but still more into social discovery. The social structures and forms he created were designed to bring out the full power and splendor of the individual, designed to liberate the individual. Dorothy Lee has made an extremely important observation on this point. We are accustomed to think of freedom as being freedom from something. The real freedom is the freedom to function, the freedom for something, and that freedom is made possible by our social arrangements. Ancient man had plenty of our kind of freedom, but the main freedom he had was the freedom created through his social institutions: the freedom to function.

Every ancient man had a role, a place in his society, or a series of roles. Things were expected of him; he knew he could do them. He knew that the community wanted them. There was nobody without a role, a place, a function, not even the oldest man or woman had lost a usefulness, a role. The child took on his role when he was born. The ancient world knew nothing of our modern disease, the disease that is called "anomie." It is a word given us by the great French Sociologist, Durkheim. "Anomie" means being without a role, not having anything expected of you, not having anybody waiting for your gift, not having any demand placed on you, not having anything in common with other men. It is the peculiar disease of modern western life. It hardly existed in the ancient world.

There are only two other things about ancient man I would em-

phasize. We hear all the time about status. We are status infected, status dominated, in our American world especially, and in Europe. Ancient man was not status-minded. He was exhaustively democratic. He established roles for everybody. He didn't weight those roles with prestige value. The fulfillment of the given role with all one had to give was success. Ancient man was not the least bit interested in climbing out of his role into a role having greater prestige. Ancient man shared, in that way, a good deal of the psychology of the caste system in India. And we know what deep security and peace the caste system gives for all its inhibitions.

And finally, this aspect of ancient man is the core of all else: he was not acquisitive. He had no interest in gaining wealth except to give it away. He didn't work for wages or wealth. If he produced a surplus he didn't invest that surplus in order to live by somebody else's labor; he gave it away. Thus, generosity, hospitality, sharing, what we would call charity, was universal. I would like to dwell on this particular aspect of ancient man. I mean that primitive man was not motivated by gain nor was he motivated by fear, because in primitive society nobody could starve; nobody could go without shelter; these were the inalienable rights of everyone born. If one starved the whole community starved. As long as the community had anything, you shared it.

Now you will find this particular fact about ancient man. He thought giving was better than getting. You'll find it institutionalized all over the world; the way being that when you need something, it is for me to discover that you need it. And if I've got it I give it to you! You don't ask me. I give it to you. You receive it, and then, sooner or later, in one way or another, you give *me* something that I need. The only dishonor in this process of interchange would be the dishonor of refusing to accept a gift. It turns our whole contemporary world upside down.

But you find, for example, a very fine whole book devoted to the gift-exchange system in one place, right now, in a Malay village, by Raymond Firth, perhaps Britain's foremost anthropologist. I cannot summarize this book, but I can tell you this much that the Malay villages live both by the land and the sea, that is, they farm the ocean and they farm the land. They are engaged in international trade, that is, they acquire what they need from the world and they sell their production all over the world. So they are a part of our modern international economic life. And they require capital. How do they get their capital for fishing boats, and for putting motors into their fishing boats? They don't go to the bank; they don't go to the government and borrow it. If I need capital, if I need a thousand dollars to invest in my equipment, I give a feast. I give a banquet, a dinner,

a picnic, and invite everybody to the picnic. And everybody who comes brings *me* a gift. It may be rice, it may be money he brings me. Perhaps I have five hundred guests at my picnic. Each of them brings me a gift. My picnic costs me five hundred dollars but my gifts total fifteen hundred dollars. Now I remember everyone who came to my picnic and I remember what he gave me. I don't make a written record of it. Nobody keeps books, but any one of them next year, or ten years from now, may need capital. He will give a picnic, and I will remember what he gave me, and I will give him back twice as much. And this system operates with perfect smoothness through the whole of the Malay peninsula, a system of capital accumulation, of credit, with no collateral, no bookkeeping, no law-suits to collect. And the process of acquiring capital, borrowing money, if you will, or investment, is a part of the hospitality, the life, and the gayety, the sociability, the song, the dance of Malayan life. Firth warns in his very fine book that if we want to help those Malayan fishermen and we think we are going to do it by establishing some sort of modern banking system to take the place of their gift exchange we will do them irrevocable harm and turn them into enemies. Firth is an extremely practical modern man and advisor to the British Colonial Service.

It is only within recent centuries that the world-wide gift exchange principle has been superseded by the profit system, the system of working for gain and then holding on to what you get. I do call to your attention a book by Karl Polanyi of Columbia University, *The Great Transformation*. Polanyi is an economic historian, perhaps the most profound and the most brilliant economic historian living now. And his book shows exactly how the contemporary system of what he calls the fee market, market economy, has turned upside down the world over the economy of the gift exchange and has distorted the human mind and has produced all kinds of human troubles.

I would say that even in our own modern time, even in my own life-time in this country, I have had the experience in our Southern Appalachian mountains of going for a whole month on foot traveling from mountain farm to mountain farm, when I started the journey with five dollars and I ended it with five dollars. I could not compensate anybody for anything they gave me or did for me. That is within my own life-time in our own country. The worst insult I could have given was to have insisted on paying them for giving me food and comfort.

Well now, can I speculate a little on the answer to the question of why is man fundamentally not lazy but tremendously active, not conservative but progressive? Why is he creative? I could give the answer that John Dewey has given. The answer is within the scope

of the thought of Darwin. Dewey says that if ancient man had not been tremendously energetic, resourceful, adventurous, if he had not been a problem solving creature, he would have perished. If there were groups of homo-sapiens, our branch of the race, who were not energetic, courageous, adventurous, and creative they would have been killed off. Dewey says that the Darwinian principle of natural selection insured that ancient man would be the splendid thing he was, and above all, a solver of problems, problem-centered. I don't think that one has to dispute Dewey on that point, but I think we can go far back of Dewey.

What we now understand about man, aboriginal man, eternal man, is that he possesses powers in himself, powers of action, of thinking, of imagination, infinitely greater than those which he can express at any given moment in any single action. We are overwhelmingly endowed with some power, power to dream, power to conceive, power to find words and thought. None of us can ever express at any one time more than a small part of that which is pressing from within toward expression. We are not poor, meager creatures; we are a strange commingling of angels, of demons; we are super-human if you will; I'm not talking in mystical language but in purely biological language.

Adam Smith and his school thought of man as being only a physical organism, conceived in terms of the old physics, the pre-Einstein physics, and governed by what they called the principle of least-action; that is, Adam Smith and his school said that man will always pursue the greatest satisfaction through the least effort. He is born and bred lazy. That is why they invented this system of wages and scourges to drive men to work.

Well, the modern psychology as well as modern anthropology, and humanism, know that is not true. Man is not governed by the principle of least effort. On the contrary, he is burdened and haunted and hag-ridden by power, driving him on and on and on. And if a benign and creative outlet can't be found for these inner powers, they will create their own outlet in diabolism, McCarthyism, Hitlerism. This quality of man is so fundamental, so aboriginal, so eternal that it cannot be escaped. We are predestined for greatness, that is just a fact of biology. We are loaded with capacities that cannot be exhausted in one lifetime or in thousands of years of the whole race. And the very central endowment we have is not just the endowment to dream, or the endowment to fight. Our central endowment is the endowment to seek out and solve problems. We are problem-solving organisms, if you like. So that the confronting of problems and the solving of them by men doesn't start at all with the birth of science as he knows it. It goes back to the beginning. Man has always been

a finder of problems that have to be solved, and then he broods on them. He tries and tries until he solves the problem, and he solves it communally in the group.

The reason for taking this long-time view is very simple. Place yourself within any given historical moment and try to measure the world just by what it is in that moment. And in the main, you'll get a rather poor picture of the world. Take the Greeks. Anybody who wants to understand the Greek of today or tomorrow, in terms only of the Alexandrian Empire would not understand Pericles, or Socrates, or Sophocles, and would not know what the Greek is or what he can be. And yet the Byzantine Empire endured how long?—seven hundred years, didn't it? During which almost nothing happened for reasons sociological. The Greek genius had subsided, to rise again and still rise and rise. And certainly our own epoch is very atypical in light of the long view. I mention this condition of "anomie"—homelessness, frustration, "nobody wants anything from us, and we don't expect anything from ourselves," as being the modern disease. It is a very modern disease, two or three hundred years old. And surely it's a temporary endemic disease. This picture that we get today of everything being a struggle for power between individuals, between classes, between groups, between nations, just a struggle for power, power over each other—surely, it was the doing of the thinkers of the nineteenth century that it was projected back as a total view of history. We know now that this is not true. For example, we know in this continent, America, that for fifteen thousand years or longer, man living in his thousands of societies, scrupulously abstained from seeking power. He had warfare, yes, but it was a warfare so limited that it was more like an athletic contest, as we now understand Indian warfare. He didn't want to establish power over somebody else. His concentration was excellence within his own community, adequacy within his own human world. Then towards the end of the pre-Columbian period, imperialisms of Europe swept in, and Indian tribe after Indian tribe was dragged into the French, Spanish, and British power system.

What was the Indian's response? It was the creation of the Iroquois League of peace, the six nations league whose purpose was universal and eternal peace, not power. Even that became subverted after a hundred and fifty years by the white man and the Iroquois League became the chief instrument in throwing the French Empire out of the western hemisphere. But that was not what it was meant for. With all my soul, I'm sure that this struggle for power which at the present looms over us and embraces us, is not eternal, but is a passing phenomenon which will look extremely strange to future men and in the not very distant future.

THE NORTHVILLE PROJECT—A PILOT STUDY IN IMPROVING HOME-SCHOOL RELATIONS THROUGH PARENT GROUP PARTICIPATION

GLADYS M. PANTON

The idea for the Northville project germinated in the mind of a Visiting Teacher who, through her responsibility for home-school relations, realized that many parents' needs were unmet. These unmet needs affected greatly the potential success of her job—to help children adjust to school life and use education creatively. From the inception, the project was seen as experimental, with the overall objective of piloting the kind of experience which provides more effective education. The Visiting Teacher approached Merrill-Palmer School with a request for professional leadership to carry out the idea.

Northville, a community of several thousand families with a child population of 750 in attendance at one elementary school, is a rapidly growing area. It is typically suburban in that the fathers work in the metropolitan area, commute to work and leave solving day to day problems very much to the initiative of the mothers and children. A rural township for many years, the community now is reflecting the strains of accelerated growth and changing characteristics of residents. The new residents represent a middle, upper-middle class. These ecological factors make the community both more needful and more advantageous for study.

Funds already had been allocated by the County Board of Education at the suggestion of the Visiting Teacher. The Merrill-Palmer School Committee on Community Projects evaluated the request for direct leadership in terms of school needs and the availability of staff. The staff member chosen to be leader met with the administrative heads of the Northville school system to clarify mutual objectives and make a plan. The classroom teachers also met with the leader to elaborate their problems and concerns and present suggestions. They brought both information and a healthy skepticism about the results which could be achieved.

A plan was evolved for a series of six meetings with about sixteen parents of children in the first, second and third grades. This group of parents was invited only for the reason of limiting the group to a

small number of persons. All were not parents of children who comprised the Visiting Teacher's current case load. Two married couples participated; the rest of the group consisted of only the mothers in the families.

The leader of the group was fortunate in having the opportunity to work with the parents in an informal situation and in a more positive direction than is sometimes possible. The specific purpose of the series was defined to the group as one of helping parents share with each other their concerns about their children, and to work out some of their own needs in such a way that they would feel more comfortable and adequate in living with their children. Against this framework, the leader conducted meetings in which each participant described her own family, the number of children, their ages and other pertinent characteristics. Most members shared this information very freely, although the shy ones sometimes needed the encouraging support of the leader. There were a number of releasing bits of laughter, and real sympathy and understanding extended from one to another.

The leader sometimes facilitated discussion with questions whether the parents felt that things which had happened to them as children had any influence in bringing up their own families. One mother indicated very clearly that the unfairness of decisions in her family had made it difficult for her, and she had determined that if she ever had a family of her own she would try to do a better job. She said it worked pretty well, but she had had to adapt her ideas to meet the individual requirements of each family member. This and other examples gave the discussion personal meaning for each participant.

The focus of the meetings tended to be more general at first, with each parent contributing different kinds of problems. After the second in the series, the group decided to hold the meetings in the home economics room of the high school, which was more comfortable, attractive and informal. They also decided to bring coffee and cakes as refreshments. In the experience of the professional leader, these decisions indicated movement and self-direction by the group. The efforts to create an environment of informality and friendliness helped crystallize the goals and strengthen the relationships of the individuals to each other and to the total group. As the series progressed, the group indicated a desire to examine specifically the roles of the mother and father in defining a philosophy which affected the rearing of the children and the total family interaction.

The problems posed by the group indicate some of the areas of their interests:

How do we work with other families in our immediate neighborhood who have varying points of view about handling children, i.e., those

who set no limits on their children; those who turn them out and do no supervising?

How does a family make adjustments for its varying age members—such as times to go to bed during special activities?

What is the mother's position when father comes home tired and expects mother to handle every situation relative to the children? What about father's expectation that the children should be quiet, cooperative and responsive to his demands?

How do we handle other people's children who are playing in our yard or in our house, especially when they are creating real problems?

The content of the discussions seems to have many interesting implications for leaders in parent education. The categorizing and description of parental roles in modern society give an indication of the dilemma in which some parents find themselves. For example, some of the roles which this group felt they most often assumed were sources of knowledge, helpers in the learning processes, detective, referee, judge, individual friend and confidant, limit setters, arbiters of limits, and supporters of personality. At other points in the exchange of ideas, the parents were weighing the matter of disagreements between mother and father within a family, how much of the difference should be opened up with the children present, and what the effects might be. Very often the mothers and fathers searched their memories of childhood experiences for precedents and situations which affected their present attitudes. Around this area of concern one of the inherent goals of such a group seemed to have been achieved—we had begun to move into the area of how families established values and a philosophy about family life which will help them and their children continue to develop and change.

The divergence among the group in definition of a "value" was significant. While some parents at first held that exposure of the children to esthetic advantages was a "value," they shifted their opinion when faced with another point of view that what one believed and what one transmitted about one's beliefs to one's children were the "real values." The latter was held to be the group consensus. The job was sometimes one of handling feelings of anxiety, threat, and inadequacy through genuine acceptance of support of the person and his ideas; it was sometimes that of clarifying the discussion, supporting values, and making a personal commitment to certain ideas. The worker's expanding perception of needs from

meeting to meeting was the gauge by which the methods were determined.

As an effort toward improving home-school relations, the talks led to several conclusions:

The opportunity provided through this type of project for parents to explore together their feelings, attitudes, methods, and difficulties can lead to the resolutions of individual, family and school problems.

In the field of parent education there is great need for the experience which provides sharing among parents in contrast to the method of using a specialist who goes out and tells parents what to do. The group process allows for relationships and personal insights which are basic to improved family relationships and the upbringing of children.

Teachers need a great deal more support and help in the area of understanding how they can develop better relationships with parents while working with the children.

School administrators, visiting teachers, classroom teachers, and parents are receptive to this kind of help. The resources of any community can then be strengthened through the adding together of the various professional roles to give supportive, understanding service and skill to those served.

The professional who worked in this pilot study gained personal and professional satisfactions from the overall conclusion that it is generally good to work with parents for the purpose of exploring their attitudes; their avoidance of facing problems; their expansion of knowledge in regard to finding resources for help; to discover family patterns and to examine their influence on the family group, and probably most important, to find ways of preserving a condition of good adjustment, which leads to good mental health for all members of the family.

M-P PLANS AND PROJECTS

M-P CAMP SILVER ANNIVERSARY

The opening of the Merrill-Palmer Camp June 26, 1955, will mark twenty-five years of pioneering in camping service. In 1930 the Camp was established to provide a continuing opportunity for The Merrill-Palmer School to study the growth and development of the children who had been in the Nursery School. The staff representing the leadership in the child development field inaugurated a unique program in which to observe the behavior of children, to facilitate professional understanding, and to foster the kind of camper participation which effects change in the individual and the group. These three aspects of the camp program have continued to be central objectives throughout the twenty-five years, expanding, however, to include newly developed knowledge and methods in several related professional fields, notably mental hygiene and social work. When the camp population of sixty-five girls and boys gathers in 1955, it will represent a diverse grouping of children selected to provide maximal opportunities for training and direct service.

There have been many significant milestones in the development of the Camp over a quarter of a century. Addition of a graduate student seminar program in 1940 gave greater emphasis to the training possibilities for persons interested in the growth and development of children through a camp program. Each season approximately eight carefully selected students from almost as many different professional fields live and work at camp with children from a variety of backgrounds. The gradual enlargement of the enrollment to include an expanded age range (now, eight to fourteen years) has meant greater scope for observation and study. In recent years the seminar has attracted students from foreign countries who are interested in learning the processes of democratic participation and interpersonal relations. Through the years, in several publications and in cooperative research studies, contributions have been made to the understanding of behavior in a specialized resident program.

Merrill-Palmer Camp accepts with pride the continuing responsibility of being one of the forces in the growth and development of organized camping and of assisting in giving direction to present trends and leadership in this phase of human development.

—Ivor Johnson Echols

CREATIVE ACTIVITIES REVISED

The original version of *Creative Activities*, a 1949 student project, was, in essence, a collection of things for the preschool child to make and do. Continued demand for it, in spite of its somewhat unwieldy mimeographed form, would seem to attest to its usefulness to the teachers and parents of young children. Although its essential purpose has not been changed, the revision by Dorothy Haupt and Keith Osborn, Merrill-Palmer staff members, is considerable. Moreover, it is now printed in pamphlet form, which is a great improvement.

The earlier version contained some inaccuracies, and material such as references and supply-sources had become out-dated. In the revision, however, the authors have done a great deal more than simply correct errors and "up-date" material. All of the original content has been sifted in terms of its interest and value for children and its potential for effective use by the adults who share it with them. The result is the deletion of a number of items with questionable or limited possibilities for creative and constructive use, and the addition of many suggestions for exploring the materials more freely. Many of the directions have been usefully amplified, clarified, and supported by diagrams or illustrative drawings.

A special word should be said for the effort made by the authors, through the forward and the introductions to the various sections, to develop a point of view about the nature of creative experience for young children. The emphasis is upon exploration and discovery rather than upon direction, stereotype and end-product. This expression of philosophy is somewhat unevenly presented, emerging clearly in some sections, but in others, particularly the one on paper work, becoming lost as the material of the section evolves. Had the authors had the scope provided by a textbook, they could undoubtedly have developed their point of view more fully and effectively. The limits of a manual are obvious in this respect, but it is to be hoped that the implications, however briefly supplied, will not escape the thoughtful adult who necessarily provides the opportunities, and then may share the joys, wherever young children and raw materials come together.

—Marjorie D. Sanger

SUMMER PROGRAM

In addition to the *Seminar on Man in Relationship to Change*, at the School, the *Workshop in Interpersonal Relations*, at Merrill-Palmer Camp and the *Workshop in Current Child Development Research* (MPQ 1:84) this year the School is having a *Workshop for*

Visiting Teachers. The workshop is designed to help the Visiting Teacher understand group techniques as they apply to her work with classroom teachers, school administrators and parents.

IDEA CONFERENCE

The Second Annual Merrill-Palmer Spring Conference May 19 and 20 was centered on the general theme *Values in the Social Sciences Related to Growth and Development*. In the sessions, outstanding guest speakers presented papers which served as a basis for discussion.

IMPLICIT AND EXPLICIT VALUES IN THE SOCIAL SCIENCES RELATED TO HUMAN GROWTH AND DEVELOPMENT. Clyde K. Kluckhohn, Ph.D., Professor of Anthropology, Harvard University.

IMPLICIT AND EXPLICIT VALUES IN RESEARCH. Nancy Bayley, Ph.D., Chief, Child Development Section, National Institute of Health, Bethesda, Md.

IMPLICIT AND EXPLICIT VALUES IN THE GROUP PROCESS. Aaron Stern, M.D., Department of Medicine (Brooklyn), State University of New York.

IMPLICIT AND EXPLICIT VALUES IN COUNSELING. Andras Angyal, M.D., Psychiatrist, Boston.

IMPLICIT AND EXPLICIT VALUES IN TEACHING AND EDUCATION. Rhoda Métraux, Ph.D., New York Hospital.

Material from this conference will be published in the QUARTERLY.

POSTSCRIPTS

DOROTHY L. TYLER

MERRILL-PALMER ASSOCIATIONS

In this Thirty-fifth Anniversary Year of The Merrill-Palmer School, plans are going forward for the organization of alumni groups at home and abroad. For many years, through correspondence and travel, Merrill-Palmer staff members and alumni have been aware of the strong loyalty and continued interest of those who have been at the School for long or short periods. One staff member, after visiting alumni from Michigan to California, in Australia and the Philippines, wrote that "Merrill-Palmer is everywhere!"

The reasons for this continued devotion and enthusiasm are not easy to find, especially since most of our students are both "started" and "finished" by other colleges and universities. The special quality of friendship and fellowship pervading the Merrill-Palmer program and environment no doubt contributes much. Whatever the reasons, Merrill-Palmer recognizes and appreciates this reservoir of good will, and has initiated expanded organization of its alumni as part of the commemoration of the Thirty-fifth Anniversary.

Thousands of students from colleges and universities across the land, from homes in all the states, and, at last count, from forty-four foreign countries, have come to Merrill-Palmer since January, 1922. Meeting informally here and there through the years, as occasion offered, alumni and associates have begun in recent years to seek a more formal organization and purpose for their gatherings.

In the spring of 1955 the score for Merrill-Palmer alumni organizations, all made up of former staff members as well as former students—many members have been both—stands thus: established organizations, 1 (The Merrill-Palmer Association of England); in process of organization, 1 (Detroit-area group); projected association, 1 (India).

Merrill-Palmer Association of England. Quite naturally, in view of the many staff members, students, and, especially in the early years, contributions to educational theory and organization, coming to the Merrill-Palmer School from the United Kingdom, the first Merrill-Palmer Association was formed in England in 1952. First President was Ellen Miller, who has been living in England since her retirement from the staff in 1950; first Secretary was Judith Betts, former student.

The group, which meets at the home of Winifred Harley, in London, held its sixth meeting in April, 1955, with fourteen members present. At this time Miss Harley, for many years a Merrill-Palmer staff member, was elected President, and Joyce Addison, former student, was elected Secretary. The purposes of the group are fellowship, continued contact and interaction with Merrill-Palmer, exchange of professional news and information (Miss Glanrydd Rowlands, therapist and psychiatric social worker, addressed the group on April 2), and interviewing of prospective students and special lecturers.

Detroit-area Alumni Group. The Detroit-area alumni and associates, a group numbering about 300, had their first meeting at Merrill-Palmer School June 1. At the luncheon meeting the group organized and plans for the Thirty-fifth Anniversary Year celebration of the School, in the autumn of 1955, were discussed. Alumnae members of the Planning Committee, who met at Merrill-Palmer in May, are: Louise Langdon Brown, Margaret Strong Cole, Florence Willson Duhn, Justine Lowrie Glover, Grace Graveline, Lois Harwood, and Martha Rich Wendin.

Merrill-Palmer Association in India. In January, 1955, Dr. Sita Ram Jayaswal, graduate student in 1953-54 (Ph.D., University of Michigan, 1954), wrote from Lucknow University: "We are planning to have a Merrill-Palmer Association in India." In view of the considerable and growing group of Merrill-Palmer alumni and associates there, as well as Assistant Director Mary E. Sweeny's educational work in India on two occasions, we believe there is a good opportunity for such a group to prosper. Merrill-Palmer wishes the association well.

Meanwhile, in many other places across the country and around the globe, former Merrill-Palmerites, individually and in groups, speak of and remember their common bond. The *QUARTERLY* and *News Notes* will welcome communications from them all.

Merrill-Palmer Publications Available

- THE MERRILL-PALMER QUARTERLY: published four times yearly by The Merrill-Palmer School. Subscription: yearly, \$1.50; single copies, 50 cents.
- A DIRECTORY OF NURSERY SCHOOLS AND CHILD CARE CENTERS IN THE UNITED STATES. Clark E. Moustakas and Minnie Berson. 1951. Supplement, 1953. Together, \$1.50; supplement only, 50 cents.
- CREATIVE ACTIVITIES. Revised by Dorothy Haupt and D. Keith Osborn. \$1.00.
- * CHILD DEVELOPMENT. Marian E. Breckenridge and E. Lee Vincent. Second edition, 622 pages. W. B. Saunders Co., Philadelphia, 1954. \$4.00.
- OLD WORLD FOODS FOR NEW WORLD FAMILIES. Lelia McGuire. Second edition, 135 pages. Wayne University Press, Detroit, 1947. \$2.00.
- * GROWTH AND DEVELOPMENT OF THE YOUNG CHILD. Winifred Rand, Mary E. Sweeny, and E. Lee Vincent. Fifth edition revised by Marian E. Breckenridge and Margaret Nesbitt Murphy. 523 pages. W. B. Saunders Co., Philadelphia, 1953. \$4.50.
- * CHILDREN IN PLAY THERAPY. Clark E. Moustakas. 218 pages. McGraw-Hill Book Co., 1953. Text edition, \$3.50; trade edition, \$4.50.
- * COLLEGE WOMEN WHO EXPRESS FUTILITY. Pauline Park Wilson. Bureau of Publications, Teachers College, Columbia University, New York, 1950. \$2.75.
- THE FAMILY IN THE URBAN COMMUNITY. A Lecture Series: *The Impact of Cultural Changes on the Family* by Margaret Mead; *Technology Changes Family Patterns* by Lillian M. Gilbreth; *Changing Dynamics of Family Interaction* by David R. Mace. 35 cents.
- HOW TO FEED CHILDREN IN NURSERY SCHOOLS, WITH SUGGESTIONS FOR PLANNING MEALS WHEREVER TWO- TO FIVE-YEAR-OLDS EAT TOGETHER. Mary E. Sweeny and Marian E. Breckenridge. Free.
- ONE MEAL FOR ALL; PRACTICAL SUGGESTIONS FOR COMBINING MEALS FOR THE CHILD WITH MEALS FOR THE FAMILY. Mary E. Sweeny and Marietta Eichelberger. Free.
- WHAT IS THE MERRILL-PALMER SCHOOL? Folder, free.
- QUESTIONS AND ANSWERS ABOUT THE MERRILL-PALMER SCHOOL. Folder, free.
- SCIENCE EXPERIENCES FOR NURSERY SCHOOL CHILDREN. Dorothy Haupt. National Association for Nursery Education, 1951. 50 cents.
- APPETITES AND ATTITUDES: A VIEWPOINT ON FEEDING THE YOUNG CHILD. Muriel Ginesberg Wagner. Reprint: *Jour. Amer. Dietet. Assoc.* 30:329-334. 15 cents.
- CLIENT-CENTERED THERAPY WITH PARENTS. Clark E. Moustakas and Greta Makowsky. Reprint: *Jour. Consulting Psychology* 16:338-342, 1952. 15 cents.
- * GUIDE FOR ADMINISTERING MERRILL-PALMER SCALE OF MENTAL TESTS. Rachel Stutsman. World Book Co., 2126 Prairie Ave., Chicago, Illinois. Psychological Corporation, 522 Fifth Ave., New York 18, N.Y.
- * TEST MATERIALS. C. H. Stoelting Co., 424 N. Homan, Chicago 24, Illinois. (Catalog available.)
- TEST BLANKS. 5 cents each (less 10% on orders for 25 or more; 20% on orders for 100 or more.)

* Order from publisher or bookstore.

- DESIGN FOR HAPPY MEALTIMES. Filmstrip of 48 frames accompanied by a "Discussion Guide." Produced by the Merrill-Palmer School. \$3.50 per print.
- EMOTIONAL ADJUSTMENT AND THE PLAY THERAPY PROCESS. Clark E. Moustakas. Reprint: *Jour. Genetic Psychology* 86:79-99, 1955. 25 cents.
- THE PROFESSION OF MARRIAGE COUNSELING AS VIEWED BY MEMBERS OF FOUR ALLIED PROFESSIONS: A STUDY IN THE SOCIOLOGY OF OCCUPATIONS. Richard Kerckhoff. Reprint: *Marriage and Family Living* 15:340-344, 1953. 15 cents.
- THE USE OF RECORDINGS IN MARRIAGE COUNSELING. Robert A. Harper and John W. Hudson. Reprint: *Marriage and Family Living* 14:332-334, 1952. 15 cents.
- DEVELOPMENTAL TRENDS IN THE ABSTRACTION ABILITY OF CHILDREN. Irving E. Sigel. Reprint: *Child Development* 24:131-144, 1953. 15 cents.
- NURSERY SCHOOL CHAIR AND NEST OF TABLES; DESIGNS AND SPECIFICATIONS. 15 cents.
- SUGGESTED LIST OF TOYS AND PLAY MATERIALS. 10 cents.
- A SURVEY OF FORMER MERRILL-PALMER STUDENTS; AN ANALYSIS OF THE EFFECTIVENESS OF THE MERRILL-PALMER PROGRAM, THE STATUS, FAMILY LIFE, AND OPINIONS OF FORMER STUDENTS. Ellen M. Miller and Dorothy Tyler. 32 pages. 35 cents.
- FAMILY CENTERED MATERNITY AND INFANT CARE. Report of the Committee on Rooming-In of the Josiah Macy, Jr., Foundation Conference on Problems of Infancy and Early Childhood. Edith B. Jackson, M.D. and Genevieve Trainham, R.N., Editors. 29 pages. 25 cents.
- FREE EMOTIONAL EXPRESSION IN THE CLASSROOM. Pansy Elliott and Clark E. Moustakas. Reprint: *Progressive Education* 28:125-128, 1951. 10 cents.
- THE LONGITUDINAL APPROACH TO THE STUDY OF FAMILY LIFE. Leland H. Stott. Reprint: *Jour. Home Economics* 46:79-82, 1954. 4 pages. 15 cents.
- THE NURSERY SCHOOL IN THE PUBLIC SCHOOL. Mary V. Gutteridge. Reprint: *School and Society* 73:309-312, 1951. 10 cents.
- A PREMARITAL CASE: WITH TWO YEARS' MARITAL FOLLOW-UP. Robert A. Harper. Reprint: *Marriage and Family Living* 14:133-145, 1952. 25 cents.
- THE PROBLEM OF EVALUATING FAMILY SUCCESS. Leland H. Stott. Reprint: *Marriage and Family Living* 13:149-153, 1951. 15 cents.
- ROMANCE AND PREMARITAL INTERCOURSE—INCOMPATIBLES? Robert O. Blood. Reprint: *Marriage and Family Living* 14:105-108, 1952. 15 cents.
- SITUATIONAL PLAY THERAPY WITH NORMAL CHILDREN. Clark E. Moustakas. Reprint: *Jour. Consulting Psychology* 15:225-230, 1951. 15 cents.
- SOME CHANGES IN ATTITUDES RESULTING FROM A PREPARENTAL EDUCATION PROGRAM. Leland H. Stott and Minnie P. Berson. Reprint: *Jour. Social Psychology* 34:191-202, 1951. 15 cents.
- A STUDY OF THE SUBTESTS IN THE REVISED STANFORD-BINET SCALE, FORMS L AND M. Virginia Van Dyne Fleming. Reprint: *Jour. Genetic Psychology* 64:3-36, 1954. 35 cents.
- WOMEN AFTER COLLEGE; A STUDY OF THE EFFECTIVENESS OF THEIR EDUCATION. Robert G. Foster and Pauline Park Wilson. 305 pages. Columbia University Press for Merrill-Palmer School, New York, 1942. \$2.75.

For information about courses for graduate and undergraduate students, fellowships, assistantships, reports, summer program and camp, write the registrar, THE MERRILL-PALMER SCHOOL, 71 East Ferry Avenue, Detroit 2, Michigan.

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